

Pending Claims:

This listing of claims will replace all prior listings of claims in the application:

Listing of Claims:

1. (Cancelled)

2. (Currently amended) A method comprising:

receiving, by a receiver, a message from subscriber's user equipment, said message indicating that an address of a certificate provisioning gateway for certificate issuance and delivery procedure in a visited network is requested by the subscriber's user equipment, the certificate provisioning gateway serving at least one certificate authority, the message further containing the address of the certificate provisioning gateway;

obtaining, by a processor, in response to receiving the message, subscriber's location information maintained in a mobile communication system;

determining, by the processor, on the basis of the subscriber's location information, an address of the certificate provisioning gateway;

checking, by the processor, whether or not the address of the certificate provisioning gateway received in the message is the same as the address of the certificate provisioning gateway determined on the basis of the location information;

when they are not the same, using, by the processor, the address determined on the basis of the location information; and

authenticating the subscriber; and
transmitting after the authentication via an authenticated channel to the subscriber's user equipment at least part of information required for a certificate issuance service in another network than a home network of the subscriber, said at least part of the information comprising information required to obtain a certificate from the certificate issuance service in the other network.

~~transmitting to the subscriber's user equipment at least part of information required to obtain a certificate from the certificate provisioning gateway having the address of the certificate provisioning gateway.~~

3. (Currently amended) A method comprising:

receiving, by a receiver, a message from subscriber's user equipment, the message indicating subscriber's location information and indicating that an address of a certificate provisioning gateway for certificate issuance and delivery procedure in a visited network is requested by the subscriber's user equipment, the certificate provisioning gateway serving at least one certificate authority;

using, by the a processor, the subscriber's location information to determine the address of the certificate provisioning gateway; and

authenticating the subscriber; and
transmitting after the authentication via an authenticated channel to the subscriber's user equipment at least part of information required for a certificate issuance service in another network than a home network of the subscriber, said at least part of the information comprising information required to obtain a certificate from the certificate issuance service in the other network.

~~transmitting to the subscriber's user equipment at least part of information required to obtain a certificate from the certificate provisioning gateway having the determined address.~~

4-5. (Cancelled)

6. (Cancelled)

7. (Currently amended) The method of claim [[6]] 24, further comprising:

performing the authentication as an application level authentication.

8. (Currently amended) The method of claim [[6]] 24, further comprising:

utilizing said part of the information during a certificate issuance procedure after the authentication in a visited network by the user equipment.

9. (Currently amended) The method of claim [[6]] 24, further comprising:
transmitting in said part of the information location network specific information.

10-12. (Cancelled)

13. (Currently amended) The method of claim [[6]] 24, further comprising, when said part of the information includes at least the address of the certificate provisioning gateway via which the certificate issuance service is provided, transmitting from the user equipment a certificate request to the certificate provisioning gateway.

14. (Cancelled)

15. (Currently amended) The method of claim [[14]] 26, further comprising:
transmitting the message and the reply message in an integrity protected channel.

16. (Cancelled)

17. (Currently amended) The method of claim [[14]] 26, further comprising, when said part of the information includes at least the address of the certificate provisioning gateway via which the certificate issuance service is provided, transmitting from the user equipment a certificate request to the certificate provisioning gateway.

18-23. (Cancelled)

24. (Currently amended) A method comprising:
receiving, by a receiver, a message from subscriber's user equipment, the message containing subscriber's location information and indicating that an address of a certificate provisioning gateway for certificate issuance and delivery procedure in a visited network is requested by the subscriber's user equipment, the certificate provisioning gateway serving at least one certificate authority;

obtaining, by a processor, in response to receiving the message, subscriber's location information maintained in a mobile communication system;

checking, by the processor, whether or not the subscriber's location information received in the message corresponds to the subscriber's location information obtained;

when the subscriber's location information obtained corresponds to the subscriber's location information received in the ~~message~~, message;

determining, by the processor, on the basis of the subscriber's location information the address of the certificate provisioning ~~gateway~~, gateway and

~~transmitting to the subscriber's user equipment at least part of information required to obtain a certificate from the certificate provisioning gateway having the determined address; and~~

authenticating the subscriber, and

transmitting during the subscriber authentication to the user equipment at least part of the information required to obtain a certificate from a certificate issuance service in another network than a home network in a mobile communication system after the subscriber authentication, the part of the information including at least one from a group comprising an address of a certificate provisioning gateway via which the certificate issuance service is provided in the other network, the certificate provisioning gateway serving at least one certificate authority, a public key required for the certificate issuance service in the other network, and an indication of the protocol required for the certificate issuance service in the other network; and

when the subscriber's location information obtained does not correspond to the subscriber's location information received in the message, sending, by the processor, an error indication by using the subscriber's location information obtained.

25. (Currently amended) A method comprising:

receiving, by a receiver, a message from subscriber's user equipment, the message indicating subscriber's location information and indicating that an address of a certificate provisioning gateway for certificate issuance and delivery procedure in a visited network is requested by the subscriber's user equipment, the certificate provisioning gateway serving at least one certificate authority;

determining, by the a processor, on the basis of the subscriber's location information

the address of the certificate provisioning gateway; and

authenticating the subscriber; and

transmitting after the authentication via an authenticated channel to the subscriber's user equipment at least part of information required for a certificate issuance service in another network than a home network of the subscriber, said at least part of the information comprising information required to obtain a certificate from the certificate issuance service in the other network.

~~transmitting to the subscriber's user equipment at least part of information required to obtain a certificate from the certificate provisioning gateway having the determined address.~~

26. (Currently amended) A method comprising:

receiving, by a receiver, a message from subscriber's user equipment, the message containing subscriber's location information and indicating that an address of a certificate provisioning gateway for certificate issuance and delivery procedure in a visited network is requested by the subscriber's user equipment, the certificate provisioning gateway serving at least one certificate authority;

obtaining, by a processor, in response to receiving the message, subscriber's location information maintained in a mobile communication system;

checking, by the processor, whether or not the subscriber's location information received in the message corresponds to the subscriber's location information obtained;

when the subscriber's location information received in the message corresponds to the subscriber's location information obtained obtained,

determining, by the processor, on the basis of the subscriber's location information the address of the certificate provisioning gateway, gateway and

~~transmitting to the subscriber's user equipment at least part of information required to obtain a certificate from the certificate provisioning gateway having the determined address; and~~

authenticating the subscriber, and

transmitting, in response to the message, to the user equipment in a reply message at least part of information required to obtain a certificate from the certificate issuance service in another network, the part of the information including at least one from a group comprising an

address of a certificate provisioning gateway via which the certificate issuance service is provided in the other network, the certificate provisioning gateway serving at least one certificate authority, a public key required for the certificate issuance service in the other network, and an indication of the protocol required for the certificate issuance service in the other network;

when the subscriber's location information received in the message does not correspond to the location information obtained, sending, by the processor, an error indication by using the subscriber's location information received in the message.

27. (Cancelled)

28-31. (Cancelled)

32. (Currently amended) An apparatus, comprising:
a processor configured

to serve a certificate authority in a mobile communication system,
to determine, in response to receiving from subscriber's user equipment a message indicating a request for an address of another certificate provisioning gateway than a home network of the subscriber for certificate issuance and delivery procedure, the message further containing an address of the other certificate provisioning gateway, an address of the other certificate provisioning gateway on the basis of subscriber's location information maintained in and obtained from the mobile communication system,

to check whether or not the address of the other certificate provisioning gateway received in the message is the same as the address of the other certificate provisioning gateway determined on the basis of the subscriber's location information,

when they are not the same, to use the address of the other certificate provisioning gateway determined on the basis of the location information; and

to authenticate the subscriber; and
to transmit after the authentication via an authenticated channel to the subscriber's user equipment at least part of information required for a certificate issuance service in the other network, said at least part of the information comprising information required to obtain a certificate from the certificate issuance service in the other network.

~~transmit to the subscriber's user equipment at least part of information required to obtain a certificate from the certificate provisioning gateway having the address of the certificate provisioning gateway.~~

33. (Currently amended) An apparatus, comprising:

a processor configured

to serve a certificate authority in a mobile communication system,

to receive from subscriber's user equipment a message indicating subscriber's location information and indicating a request for an address of another certificate provisioning gateway than a home network of the subscriber for certificate issuance and delivery procedure in a visited network,

to use the subscriber's location information to determine the address of the other certificate provisioning gateway; and

to authenticate the subscriber; and

to transmit after the authentication via an authenticated channel to the subscriber's user equipment at least part of information required for a certificate issuance service in the other network, said at least part of the information comprising information required to obtain a certificate from the certificate issuance service in the other network.

~~to transmit to the subscriber's user equipment at least part of information required to obtain a certificate from the certificate provisioning gateway having the determined address.~~

34. (Currently amended) An apparatus, comprising:

a processor configured

to serve a certificate authority in a mobile communication system,

to obtain, in response to receiving from subscriber's user equipment a message containing subscriber's location information and indicating that an address of another certificate provisioning gateway than a home network of the subscriber for certificate issuance and delivery procedure in a visited network is requested, subscriber's location information maintained in the system,

to check whether or not the subscriber's location information received in the message corresponds to the subscriber's location information obtained,

when the subscriber's location information received in the message corresponds to the subscriber's location information obtained, to determine an address of the other certificate provisioning gateway on the basis of the subscriber's location information, information and to authenticate the subscriber, and to transmit after the authentication via an authenticated channel to the subscriber's user equipment at least part of information required for a certificate issuance service in the other network, said at least part of the information comprising information required to obtain a certificate from the certificate issuance service in the other network transmit to the subscriber's user equipment at least part of information required to obtain a certificate from the certificate provisioning gateway having the determined address, and

when the subscriber's location information obtained from the system does not correspond to the subscriber's location information received in the message, to send an error indication by using the subscriber's location information obtained.

35. (Currently amended) An apparatus, comprising:
a processor configured

to serve a certificate authority in a mobile communication system,

to obtain, in response to receiving from subscriber's user equipment a message containing subscriber's location information and indicating a request for an address of another certificate provisioning gateway than a home network of the subscriber for certificate issuance and delivery procedure in a visited network, subscriber's location information maintained in the system,

to check whether or not the subscriber's location information in the message corresponds to the subscriber's location information obtained, and

to use the subscriber's location information received in the message to determine the address of the other certificate provisioning gateway when the subscriber's location information received in the message does not correspond to the subscriber's location information obtained, and

to authenticate the subscriber; and

to transmit after the authentication via an authenticated channel to the subscriber's user equipment at least part of information required for a certificate issuance service in another network, said at least part of the information comprising information required to obtain a certificate from the certificate issuance service in the other network.

~~to transmit to the subscriber's user equipment at least part of information required to obtain a certificate from the certificate provisioning gateway having the determined address.~~

36. (Currently amended) An apparatus comprising:
a processor configured

to serve a certificate authority in a mobile communication system,
to obtain, in response to receiving from subscriber's user equipment a message containing subscriber's location information and indicating a request for an address of another certificate provisioning gateway for certificate issuance and delivery procedure in a visited network, subscriber's location information maintained in the system,

to check whether or not the subscriber's location information received in the message corresponds to the subscriber's location information obtained,

to determine on the basis of the subscriber's location information the address of the other certificate provisioning gateway, when the subscriber's location information in the message corresponds to the subscriber's location information, ~~information obtained, and to authenticate the subscriber, and to transmit after the authentication via an authenticated channel to subscriber's user equipment the at least part of information required for a certificate issuance service in another network than a home network of the subscriber, said at least part of the information comprising information required to obtain a certificate from the certificate issuance service in the other network~~ transmit to the subscriber's user equipment at least part of information required to obtain a certificate from the certificate provisioning gateway having the determined address, and

when the subscriber's location information received in the message does not correspond to the subscriber's location information obtained, to send an error indication by using the subscriber's location information received in the message.

37. (Previously Presented) The method as claimed in claim 2, wherein a certificate authority is a trusted third party.

38. (Previously Presented) The method as claimed in claim 2, wherein a certificate authority is a trusted third party and does not include an authorization,

authentication and accounting server.

39. (Previously presented) The apparatus as claimed in claim 32, wherein a certificate authority is a trusted third party.

40. (Previously presented) The apparatus as claimed in claim 32, wherein a certificate authority is a trusted third party and does not include an authorization, authentication and accounting server.